

FOSSIL BEETLES FROM A FOSSIL WOOD RAT
MIDDEN IN WESTERN TEXAS

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ABSTRACT

Fossil beetle remains have been found in a sample taken from a Late Quaternary wood rat midden. Three fragments have been assigned to the extant species, *Niptus abstrusus* Spilman (Coleoptera:Ptinidae).

THE SITE

The midden sample came from a cave located in Maravillas Canyon, in the Chihuahuan Desert of western Texas. It consisted of cemented plant debris, bones, and fecal pellets of a wood rat (*Neotoma* sp.). Based on radiocarbon dating, it was between 11,500 and 12,500 years old. The plant remains were described by Wells (1966) and included abundant fragments of pinyon pine (*Pinus cembroides*), juniper (*Juniperus pinchotii*), shrubby live-oak (*Quercus pungens*), and prickly pear (*Opuntia macrocentra*). The assemblage was interpreted by Wells as indicating the presence of a xerophilous woodland during the Late Quaternary, contrasting with the shrubby desert of the present day.

THE FAUNA

The midden sample (0.5 kg) was soaked in water to break down the cement, and the fragments were microscopically sorted. The insect fragments were structurally well-preserved, but their uniform yellowish-brown color indicated that they had undergone a pigment change.

IDENTIFIED TAXA: 2 right elytra, 1 left elytron: *Niptus abtruses* Spilman (Ptinidae); 1 pronotum: *Ptinus* sp. (Ptinidae); Base of a right elytron: gen. indet. (Scarabaeidae); 1 right elytron, 1 left elytron: possibly *Anthonomus* (Curculionidae).

The fossil elytra identified as *Niptus abtruses* were a perfect match with their modern counterparts and could be distinguished from the elytra of other members of the genus on the basis of punctation (Spilman 1968).

The species is a cave-dweller and Reddell (1966) reported individuals on raccoon droppings. It would therefore seem probable that the fossil individuals were associated with the wood rat fecal pellets. The present distribution of the species is in Western Texas (Fern Cave, Val Verde County; Bat Cave, Marischal Mountains, Brewster County) and Coahuila, Mexico (Pedrigosa Circle Cave; Pedrigosa Pipe Cave; Cueva de San Vincente). The fossil occurrence is within the present distributional area.

Insect remains are common fossils of Quaternary peat and silt deposits in the northern states (Ashworth & Brophy 1972; Ashworth, Clayton, and Bickley 1972, but I do not know of similar deposits in the arid Southwest.

Therefore, wood rat middens, although a specialized environment, may provide an opportunity of studying at least a part of the Quaternary insect assemblage of that region.

ACKNOWLEDGMENTS

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REFERENCES

- ASHWORTH, A. C., AND BROPHY, J. A. 1972. Late Quaternary fossil beetle assemblage from the Missouri Coteau, North Dakota. *Bull. Geol. Soc. Amer.* 83:2981-2988.
- ASHWORTH, A. C., CLAYTON, L., AND BICKLEY, W. B. 1972. The Mosbeck Site: a paleoenvironmental interpretation of the Late Quaternary history of Lake Agassiz based on fossil insect and mollusk remains. *Quaternary Research* 2(2):176-188.
- REDDELL, J. R. 1966. A checklist of the cave fauna of Texas. II. Insecta. *Texas J. Sci.* 18:25-56.
- SPILMAN, T. J. 1968. Two new species of *Niptus* from North American caves (Coleoptera:Ptinidae). *Southwestern Nat.* 13(2):193-200.
- WELLS, P. V. 1966. Late Pleistocene vegetation and degree of pluvial climatic change in the Chihuahuan desert. *Science* 153(3739):970-975.



COLEOPTERISTS SOCIETY MEETING

The annual meeting of the **Coleopterists Society** will be held in conjunction with that of the **Entomological Society of America** at Dallas, Texas. Our meeting will be on Wednesday, Nov. 28, 1973, in the Gold Room of the Statler Hilton Hotel. The exact time has not been established, but it will be posted at the meeting. We hope that all Coleopterists who plan to attend the ESA meetings will make plans to get together on Wednesday evening.

Plans for the field trip to Welder Wildlife Area have not yet been made final, but details will be announced at the meeting. Further information can be obtained by writing to the Coleopterists Society President, Dr. George E. Ball, Dept. Ent., Univ. of Alberta, Edmonton, Alberta, Canada.